Paper No. 9

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte STEVEN A. ROTH

Appeal No. 2005-0497
Application No. 09/610,510

ON BRIEF

Before COHEN, FRANKFORT, and BAHR, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 10-18, all of the claims remaining in this application. Claims 1-9 were cancelled by amendment in Paper No. 3, filed October 19, 2001.

THE INVENTION

The invention relates to a rod stiffener apparatus for stiffening hanger rods employed to hold or support pipes and other conduits from a building structure. The rod stiffener apparatus is used for seismic bracing purposes. The rod stiffener apparatus includes a clamp (30, 60, 70) having two straight, double-ended, spaced, parallel first and second clamp segments (32, 34; 62, 64; 80, 82) that are threaded over at least portions of the lengths thereof and a third clamp segment (36, 66, 72) integral with and extending between ends of the first and second clamp segments. The apparatus also includes a plate (18) defining spaced openings. Ends of the first and second clamp segments remote from the third clamp segment project through the spaced openings of the plate. Nuts (20) are threadedly engaged with the ends of the first and second clamp segments projecting through the spaced openings and connect the clamp to the plate. An elongated stiffener member (14, 48, 50) is disposed between the plate and the third clamp segment for engaging a hanger rod extending parallel to the elongated stiffener member. The elongated stiffener member is cooperable with the clamp to maintain the hanger rod in a predetermined position relative to the elongated stiffener member and the clamp. Appellant discloses three different embodiments of the third clamp segment, and two different embodiments of the elongated stiffener member; all of which cooperate with one another and are interchangeable with one another.

The first embodiment of the third clamp segment (36) seen in Figures 4 and 6A-6C comprises two straight portions (38, 40) that are interconnected at a midpoint between the first and second clamp segments (32, 34). Each of the first and second straight portions form an obtuse angle with respect to the first and second clamp segments. The second embodiment of the third clamp segment (66) seen in Figures 5 and 7A-7C comprises a single straight portion that forms an obtuse angle with respect to one of the first and second clamp segments (62, 64), and forms an acute angle with respect to the other of the first and second clamp segments (62, 64). The third embodiment of the third clamp segment (72) seen in Figures 8A-8C comprises two straight portions (74, 76) that are interconnected at a point between the first and second clamp segments (80, 82) that is closer to one of the first and second clamp segments (80, 82) than the other. Each of the first and second straight portions form an obtuse angle with respect to the first and second clamp segments (80, 82).

The first embodiment of the elongated stiffener member is in the cross-sectional shape of a square (Figs. 6A, 7A and 8A). The second embodiment of the elongated stiffener member is in the cross-sectional shape of a circle (Figs. 6B-6C, 7B-7C, 8B and 8C).

Appellant notes that one advantage of the disclosed rod stiffener apparatus is that it is usable to stiffen both large and small diameter rods and that one size of rod stiffener

apparatus can thus be used to accommodate itself to many different rod sizes

(specification, page 3).

Representative claim 10, reads as follows:

In combination:

a hanger rod for supporting one or more components of a building from building structure;

a clamp having a straight first clamp segment and a straight second clamp [segment] spaced from said first clamp segment and parallel thereto, each of said first clamp segment and said second clamp segment being double-ended and threaded over at least a portion of the length thereof, said clamp including a third clamp segment integral with and extending between ends of said first clamp segment and said second clamp segment;

a plate connected to said clamp and defining spaced openings, ends of said first clamp segment and said second clamp segment remote from said third clamp segment projecting through said spaced openings, said first clamp segment and said second clamp segment disposed on opposed sides of said hanger rod and said third clamp segment and said plate disposed on other opposed sides of said hanger rod, said connected plate and clamp surrounding said hanger rod;

nuts threadedly engaged with the ends of said first clamp segment and said second clamp segment projecting through said spaced openings urging said plate toward said third clamp segment; and

an elongated stiffener member surrounded by said connected plate and clamp and disposed between said plate and said third clamp segment, said hanger rod extending parallel to said elongated stiffener member and engaged by said elongated stiffener member, and said elongated stiffener member cooperable with said clamp to maintain the hanger rod in predetermined position relative to said elongated stiffener member and said clamp wherein said hanger rod is in engagement with said elongated stiffener member and with said clamp, at least a portion of said third clamp segment being straight and non-orthogonally disposed relative to said first clamp segment and said second clamp segment and cooperable with said elongated stiffener member to continuously exert lateral forces on said hanger rod continuously urging said hanger rod to said predetermined position due to clamping engagement of said hanger rod between said

elongated stiffener member and the third clamp segment, and said plate being in contact with said elongated stiffener member at a location on said elongated stiffener member spaced from said hanger rod and urging said elongated stiffener member toward said hanger rod and said third clamp segment.

THE PRIOR ART

Finke et al. (Finke)	3,318,561	May 9, 1967
Searls	3,713,613	Jan. 30, 1973

Appellant's admitted prior art (AAPA) shown in Figs. 1-2.

THE REJECTIONS

Claims 10, 11 and 13-17 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over AAPA in view of Finke.

Claims 12 and 18 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over AAPA in view of Finke, and further in view of Searls.

OPINION

Having carefully reviewed the obviousness issues raised in the appeal in light of the record before us, we have made the determinations that follow.

Addressing claim 10 first, this claim requires the combination of a hanger rod, a clamp having first and second straight clamp segments and a third clamp segment extending between the first clamp segment and second clamp segment, a plate having two openings for receiving the first and second clamp segments and connected to the

clamp via nuts which threadedly engage the first and second clamp segments, and an elongated stiffener member. Claim 10 specifically describes the third clamp segment as straight and non-orthogonally disposed relative to the first and second clamp segments.

The examiner has rejected claim 10 as being obvious over AAPA in view of Finke. The examiner points out that AAPA teaches all of the structural features of the claimed combination except for a third clamp segment being straight and non-orthogonally disposed relative to the first and second clamp segments as set forth in claim 10 on appeal. To address this difference, the examiner looks to Finke, urging that Finke teaches the clamp structure that is not present in the AAPA. The examiner relies on the motivation that there are many well known clamps like those exemplified in Finke at (21), (24) and (64) that have different shapes to accommodate different size structures, and concludes that it would have been obvious to one of ordinary skill in the art at the time of appellant's invention to have included the straight portion as in Finke on the third clamp segment of AAPA "in order to accommodate for different size and shape structures that were to be held in place" (examiner's answer, page 5).

Looking to AAPA Figures 1 and 2, it is our view that one of ordinary skill in the art at the time of appellant's invention would have readily recognized that the rod stiffener apparatus therein is generally employed with larger diameter hanger rods (10) and cannot be used for very small diameter rods due to the fact that the curvature of the outer

segment of the conventional U-bolt (16) limits the extent to which the stiffener member can approach the outer closed end of the U-bolt.

In the rod or mast clamping arrangement seen in Finke, it is an objective of the invention to provide a support bracket adapted to be mounted on masts/rods of different sizes (col. 1, lines 45-47). More particularly, Finke notes that from Figure 2 "it will be apparent that the mast 51 may be larger or smaller in cross section than shown" (col. 3, lines 64-66) and that in accordance with the invention therein a bracket of one given size may be used on a relatively wide range of masts" (col. 3, lines 73-75). Utilizing the teaching found in the Finke reference, we are of the view that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the clamp structure of AAPA apparatus with a clamp structure like that seen at (21), (24) or (64) of Finke, since Finke teaches that such a clamp structure can be used to accommodate rods/masts of various cross sectional sizes. Therefore, the examiner's rejection of claim 10 under 35 U.S.C. § 103 (a) as being unpatentable over AAPA in view Finke is sustained.

Appellant has argued that the Finke and Searls references are in an art "totally unrelated to that disclosed and claimed in this application", "widely separated from that of applicant's invention", "directed to an art quite different of applicant's claimed and disclosed invention" and "quite removed from the art of applicant's invention." See pages 11 and 15-17 of the appeal brief. With these statements in mind, we believe that

appellant intends to urge that Finke and Searls are "nonanalogous art". Two criteria have been used by our reviewing courts to determine whether prior art is analogous: whether the art is from the same field of endeavor, and if the reference is not in the same field of endeavor, whether the reference is reasonably pertinent to the particular problem with which the inventor was involved.[1]

Even if we concede that Finke and Searls are not from exactly the same field of endeavor as appellant addresses (i.e., hanger rod stiffening), it is our view that the Finke and Searls references are reasonably pertinent to the particular problem with which the inventor was involved and thus meet the second prong of the test for analogous art. Appellant sought to utilize a single rod stiffener apparatus including an integral U-bolt clamp structure to accommodate the rod stiffener apparatus to different rod sizes. The Finke and Searls references both disclose U-bolt clamp structures for holding and securing elongated rod or mast members on and relative to a fixed supporting structure.

[1] In re Wood, 599 F.2d 1032 (CCPA 1979), In re Deminski, 796 F.2d 436, 442 (Fed. Cir. 1986), In re Bigio, 381 F.3d 1320, 1325 (Fed. Cir. 2004).

"A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem."[2] Looking to art that discloses other clamp structures is both logical and reasonable when considering appellant's problem of accommodating different rod sizes/shapes and the references to Finke and Searls would have clearly commended themselves to an inventor's attention in considering such a problem. Accordingly, we have determined that the Finke and Searls references are analogous art and that the examiner's use of the Finke reference, in particular, in rejecting claim 10 under 35 U.S.C. § 103 (a) as being unpatentable over AAPA in view Finke was proper.

Turning our attention now to dependent claim 11, we note that claim 11 requires the third clamp segment to include a first straight portion and a second straight portion interconnected with the first straight portion, and where the first and second straight portions form obtuse angles with the first and second clamp segments respectively. Finke shows this claim limitation in the U-bolt clamp members (21), (24) and (64) shown in Figures 1-2 and 5. Since claim 11 is ultimately dependent on claim 10, and AAPA in combination with Finke clearly teaches the limitation of claim 11, the examiner's rejection of claim 11 under 35 U.S.C. § 103 (a) as being unpatentable over AAPA in view Finke is sustained.

---

[2] In re Clay, F.2d 656, 659 (Fed. Cir. 1992).

With respect to dependent claims 12-14, we note that although appellant has indicated on page 11 of the appeal brief that the rejected claims do not stand or fall together, appellant argues claims 11-14 as a group on page 17 of the brief. As a result, we have decided to treat the grouping of claims 11-14 as standing or falling together because appellant has not argued the patentability of each of these claims separately. Thus, given our disposition of claim 11 above, it follows that claims 12-14 will fall with claim 11 and the examiner's rejections of claims 12-14 under 35 U.S.C. § 103 (a) as being unpatentable over AAPA in view of Finke and AAPA in view of Finke and Searls are also sustained.

Concerning dependent claim 15, we note that claim 15 requires the elongated stiffener member of claim 10 to comprise a channel bearing against the plate and hanger rod. As pointed out in the examiner's answer on page 4, AAPA shows a stiffener member in the form of a channel (14) bearing against the plate (18) and hanger rod (10) in Figure 2. Since claim 15 is ultimately dependent on claim 10, and AAPA in combination with Finke also teaches the limitation of claim 15, the examiner's rejection of claim 15 under 35 U.S.C. § 103 (a) as being unpatentable over AAPA in view of Finke is sustained.

With respect to claims 16 and 17, we note that although appellant has indicated on page 11 of the brief that the rejected claims do not stand or fall together, appellant argues claims 15-17 as a group on page 17 of the brief. Consequently, we have decided to treat the grouping of claims 15-17 as standing or falling together because appellant has not

argued the patentability of each of these claims separately. Thus, given our disposition of claim 15 above, it follows that claims 16 and 17 will fall with claim 15 and that the examiner's rejection of claims 16 and 17 under 35 U.S.C. § 103 (a) as being unpatentable over AAPA in view Finke is also sustained.

Claim 18 requires that the predetermined position to which the hanger rod is urged in claim 10 be located at an intersection between the third clamp segment and the first clamp segment (e.g., as seen in Figure 5 of appellant's drawings). The examiner has relied on AAPA in view Finke, and further in view of Searls to reject claim 18. The examiner contends that "[c]hanging the shape of the third clamp segment is obvious in order to accommodate for different size[d] and shape[d] structures that are to be held in place", and urges that it would have been obvious to one of ordinary skill in the art at the time appellant's invention was made to have had the third clamp segment of AAPA in view of Finke "be substantially straight such as in Searls in order to accommodate for different size[d] and shape[d] structures to be held in place" (answer, page 6). We do not agree with the examiner's proposed modification. Although Searls shows a U-bolt clamp structure (32) that is substantially identical to the clamp structure seen in Figures 4 and 7A-7C of the present application, Searls' clamp structure is specifically intended and designed for clamping an L-shaped angle iron (31) of a vertical bay or wall structure (10, 11, 12) to a grid-type ceiling structure (22). See col. 1, lines 64-68. Searls does not teach or suggest clamping alternative shaped or sized articles within the clamp structure. Given the specific nature of the clamp structure of Searls and its method of use with angle

iron (31) and U-shaped member (24), we see no reason to further modify the hanger rod stiffening structure arrived at by modifying clamp (16) of AAPA to have a configuration like that seen in Finke at (21), (24) or (64), by somehow incorporating the structure seen in Searls. Therefore, the examiner's rejection of claim 18 under 35 U.S.C. § 103 (a) as being unpatentable over AAPA in view Finke, and further in view of Searls is reversed.

SUMMARY

In summary:

The examiner's rejection of claims 10, 11 and 13-17 under 35 U.S.C. § 103 (a) as being unpatentable over AAPA in view of Finke is sustained.

The examiner's rejection of claim 12 under 35 U.S.C. § 103 (a) as being unpatentable over AAPA in view of Finke, and further in view of Searls is sustained.

The examiner's rejection of claim 18 under 35 U.S.C. § 103 (a) as being unpatentable over AAPA in view of Finke, and further in view of Searls is reversed.

The decision of the examiner, accordingly, is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

IRWIN CHARLES COHEN)
Administrative Patent Judge)
)
)
CHARLES E. FRANKFORT) BOARD OF PATENT
Administrative Patent Judge) APPEALS AND
) INTERFERENCES
)
)
JENNIFER D. BAHR)
Administrative Patent Judge)

CEF/lbg

RYAN, MASON & LEWIS, LLP
1300 POST ROAD, SUITE 205
FAIRFIELD, CT 06430